

## REMARKS

Entry of the foregoing amendments and favorable consideration of the subject application is respectfully requested in view of the following comments.

Claims 1-10 are currently pending in the subject application. Claims 1-10 have been amended in response to the Examiner's comments in the present official action. In addition, the specification has been amended to correct informalities noted by the Examiner and to correct minor typographical errors noted in reviewing the specification.

Specifically, formula  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$  and those like it have rendered the specification unclear in that they do not correspond to the textual reference to a titanium di-ammonium fluoride halide composition. Accordingly, the Examiner has objected to the specification.

By the foregoing amendment, Applicants have amended the specification at pages 5 and 7 to specify the formulas  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$ ,  $(\text{HH}_4)_2\text{TiF}_6$  and  $(\text{HH}_4)_2\text{TiF}_2\text{XCl}_4$  as  $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$ ,  $(\text{NH}_4)_2\text{TiF}_6$  and  $(\text{NH}_4)_2\text{TiF}_2\text{XCl}_4$ , respectively.

Simultaneously, Applicants have carefully reviewed the specification and have corrected minor typographical, spelling and grammatical errors. For example "anataze" has been corrected to "anatase", "electrodedeposition" has been corrected to "electrodeposition", various instances of "become" have been corrected to "becomes".

None of the foregoing amendments to the specification and claims have added any new matter and it is respectfully submitted that all amendments to the specification and claims overcome the Examiner's objections and rejections and are properly enterable at this time.

Applicants herewith submit a second substitute specification incorporating all of the amendments in the first, second and third preliminary amendments as well as the currently submitted amendments and respectfully request that this substitute specification be used in publication of the subject application.

The Examiner has objected to claims 2-4 and 6-8 in view of informalities specifically noted in the present official action. Specifically, in claims 2, 4, 6 and 8, the phrase "to which at least one promoter...is loaded" is objected to as suggesting a process limitation. Applicants have amended these claims to recite "further comprising" as suggested by the Examiner and respectfully submit that the Examiner's objection is therefore overcome.

In claims 3 and 7, the incorrect spelling "anataze" has been noted which Applicants have also corrected to "anatase" as recommended by the Examiner. Accordingly, that objection has also been overcome.

Claims 1-10 have been rejected under 35 USC 112, second paragraph as being indefinite.

Specifically, in Claims 1-8, reference is made to a

"titanium fluoride nitride" comprising  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$ ". The Examiner notes that since the limitations do not permit the subscript "a" to ever be 0, indicating that oxygen is always present whereby the phrase "titanium fluoride nitride is not commensurate with the formula.

By the amendments herein, Applicants have amended claims 1 and 5 to recite "a photo-catalyst containing a titanium (IV) compound comprising  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$  or a compound represented by  $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$  ..." Applicants respectfully submit that this amendment overcomes the Examiner's rejection. Concurrently therewith, the phrase "containing titanium fluoride nitride" has been deleted from dependent claims 2-4 and 6-8, thereby presenting the dependent claims as "the photo-catalyst of claim ...".

Applicants respectfully submit that the foregoing amendments overcome the Examiner's rejections of claims 1-8 and thereby place claims 1-8 in condition for allowance.

Claims 9 and 10 have been rejected under 35 USC 112, second paragraph as indefinite. Specifically, the Examiner notes that neither claim 9 nor claim 10 clearly recites process steps defining the respectively claimed processes. The formula  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$  in both claims is unclear for the same reasons as noted in the specification. Finally, the temperature ranges are missing degree symbols and units.

Applicants have amended claims 9 and 10 to correct the

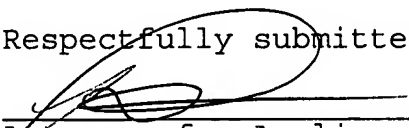
formula  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$  to  $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$  as was done in the specification. In addition, the missing degree symbols and units (C) have been added thereby overcoming the rejections on these points.

With regard to the clear recitation of process steps, the syntax of claims 9 and 10 has been amended to more clearly recite a method for preparation of a photo-catalyst comprising the steps of baking the titanium di-ammonium fluoride halide at a maximum temperature to form a starting material, followed by nitrogenating the starting material by thermal synthesis under the recited conditions.

Applicants respectfully submit that these amendments overcome the Examiner's rejection of claims 9 and 10 and that those claims are now in condition for allowance.

Inasmuch as the Examiner has indicated that claims 1-10 would be allowable if amended to overcome all of the rejections and objections and, inasmuch as the foregoing amendments clearly address and overcome said objections and rejections, Applicants respectfully submit that claims 1-10 as amended herein are now in condition for allowance and respectfully request an early notice of allowance.

Respectfully submitted,



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